stay served to contribute to a 0.19% probability increase of 30-day readmissions (p<0.001). **CONCLUSIONS:** Several comorbidities and a previous record of hospitalizations served as risk factors for 30-day readmissions. Patients with these risk factors are vulnerable and merit special attention.

PRS14

THE DETERMINANTS OF 30-DAY HOSPITAL READMISSIONS AMONG PATIENTS WITH ASTHMA

Kim M[1], Asche CV[1], Tillis W[2]

[1]*University of Illinois College of Medicine at Peoria, Peoria, IL, USA,* [2]*OSF Saint Francis Medical Center, Peoria, IL, USA*

OBJECTIVES: The societal economic burden of asthma was $56 billion (direct and indirect costs) in 2007. Inpatient costs represented 28%-43% of the total direct costs (excluding prescription costs). The objective of this study is to estimate the determinants of 30-day hospital readmissions among patients with asthma. **METHODS:** A cross-sectional analysis was conducted for patients with asthma (ICD 9 code 493) among all age groups utilizing the 2012 Truven MarketScan dataset. Patients discharged to home or other facilities were included (un-weighted n=16,390). A multivariable logit model was employed where the outcome variable was a dichotomous 30-day readmission (any caused readmission). The covariates included demographic characteristics, length of stay at index hospitalization, past healthcare utilizations, and comorbidities. **RESULTS:** Among patients with asthma, the readmission rate within 30 days after the index hospitalization discharge was 4.8%. Older groups were more likely to be readmitted than younger group (17-34 aged): Odds ratio (OR)=1.59 (35-44 aged, p=0.023), 1.61 (45-54 aged, p=0.012) and 1.71 (55-64 aged, p=0.007). Patients with HMO, PPO and Comprehensive insurances were 72% more (OR=1.72, p<0.001), 31% less (OR=0.69, p=0.031) and 68% less (OR=0.32, p<0.001) likely to be readmitted than those with PPO, respectively. Patients discharged to other facilities were 388% (OR=4.88, p<0.001) more likely to be readmitted than those discharged to home. Patients with connective tissue disease were 63% (OR=1.63, p=0.007) more likely to be readmitted within 30 days than those without. In addition, an increase of hospitalization in the prior year contributed to a 1.36% probability increase of 30-day readmissions (p<0.001). **CONCLUSIONS:** Patient groups vulnerable for 30-day readmissions after hospitalization were identified among patients with asthma. A comorbidity disease and a previous record of healthcare utilization were risk factors for 30-day readmission.

RESPIRATORY-RELATED DISORDERS – Cost Studies

PRS16

ECONOMIC IMPACT OF AVOIDABLE DRUG WASTAGE IN PATIENTS ADMITTED TO THE HOSPITAL FOR AN ACUTE COPD EXACERBATION

Bollu V[1], Clark RS[2], Carlton R[2], Meyer KL[2]

[1]*Sunovion Pharmaceuticals, Marlborough, MA, USA,* [2]*Xcenda, Palm Harbor, FL, USA*

OBJECTIVES: To estimate annual drug wastage (drug that is discarded without being administered to a patient) and associated costs incurred by a typical hospital due to the use of multi-unit-dose packaged COPD treatment devices in patients admitted for acute chronic obstructive pulmonary disease (COPD) exacerbation. **METHODS:** An economic model was built to evaluate the annual number of wasted doses and related costs associated with adult patients admitted to the hospital for an acute COPD exacerbation. Model inputs were based on a retrospective study of adults with COPD admitted to a university-affiliated hospital between January 2011 and June 2012 (Sakaan, Am J Respir Crit Care Med. 2014). Wasted doses for the following comparators were assessed: albuterol, arformoterol, fluticasone, formoterol, ipratropium, tiotropium, budesonide/formoterol, and fluticasone/salmeterol (all non-nebulized formulations except arformoterol). Because arformoterol is available in a single-unit-dose package, no wastage was assumed. Pharmacy costs of wasted doses were calculated from number of doses wasted and publicly available wholesale acquisition cost per dose (Red Book™, 2014). **RESULTS:** Based on a hospital with 500 COPD admissions per year, the estimated annual number of wasted doses was 18,045 (87%) at a cost of $69,103. Budesonide/formoterol, tiotropium, and fluticasone/salmeterol were most costly, representing an annual cost of $28,292, $17,686, and $17,366 in drug wastage, respectively. Arformoterol ($0), formoterol ($518), and fluticasone ($550) had the lowest annual drug wastage costs. The highest drug wastage costs per patient were with fluticasone ($195) and budesonide/formoterol ($161), while the lowest drug wastage costs per patient were with arformoterol ($0) and albuterol ($17). **CONCLUSIONS:** For patients admitted to the hospital with a COPD exacerbation, the use of multi-unit-dose packaged devices may result in significant costs due to drug wastage that could be avoided with use of single-unit-dose packaged devices.

PRS17

THE BUDGET IMPACT OF DUORESP® SPIROMAX® (BUDESONIDE + FORMOTEROL FUMARATE DIHYDRATE) COMPARED WITH COMMONLY PRESCRIBED DRY POWDER INHALERS FOR THE MANAGEMENT OF ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN THE UNITED KINGDOM: IMPACT OF INHALATION TECHNIQUE

Lewis A[1], Blackney M[1], Torvinen S[2], Plich A[3]

[1]*Covance Inc., London, UK,* [2]*Teva Pharmaceuticals Europe B.V, Amsterdam, The Netherlands,* [3]*Teva Pharmaceuticals Europe B.V., Amsterdam, The Netherlands*

OBJECTIVES: DuoResp® Spiromax® (budesonide + formoterol fumarate dihydrate) is a fixed-dose combination (FDC) of inhaled corticosteroid (ICS) + long-acting beta agonist (LABA) in a novel dry powder inhaler (DPI). An economic model was developed to assess the budget impact of switching adult patients with persistent asthma and chronic obstructive pulmonary disease (COPD) from market-leading DPIs in the United Kingdom (UK) - Symbicort® Turbohaler® and Seretide® Accuhaler® - to DuoResp® Spiromax®. The potential cost benefit of improved inhalation technique due to the innovative characteristics of the Spiromax® inhaler was also investigated. **METHODS:** The eligible adult patient population was based on current confirmed UK asthma and COPD diagnosis rates, with the proportion receiving FDCs based on market research data. Costs of FDCs and scheduled and unscheduled healthcare events were taken from publicly available UK sources. Frequency of poor inhalation technique with the market-leading DPIs, and the associated increased risk of unscheduled healthcare events, were taken from a large (n=1,664) cross-sectional, Italian observational study, with the estimated reduction in the proportion of patients with poor inhalation technique with DuoResp® Spiromax® based on a conservative assumption. **RESULTS:** The model estimated that 400,926 adult patients use Symbicort® Turbohaler® and 357,008 Seretide® Accuhaler® annually and were therefore eligible for treatment with DuoResp® Spiromax®, with 174,403 and 123,168 of these exhibiting poor inhalation technique, respectively. Assuming a hypothetical uptake of DuoResp® Spiromax® reaching 13% in year 4 and 5, and its current UK price, the model predicted drug cost savings totalling £65.57 million over five years. Furthermore, 64,845 unscheduled healthcare events could be avoided due to the predicted improvement in inhalation technique with DuoResp® Spiromax® compared with these DPIs, resulting in further savings of £4.78 million. **CONCLUSIONS:** DuoResp® Spiromax® is likely to offer budgetary savings compared with market-leading DPIs, with further cost savings potentially resulting from improved inhalation technique.

PRS18

INPATIENT VERSUS OUTPATIENT TREATMENT RELATED TO EXACERBATION EPISODES IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) FROM A PUBLIC MEXICAN INSTITUTIONAL PERSPECTIVE)

Huicochea-Bartelt JL[1], Camacho-Cordero LM[2], Herran S[1]

[1]*Boehringer Ingelheim, Distrito Federal, Mexico,* [2]*Health Consoultings, Distrito Federal, Mexico*

OBJECTIVES: To estimate and compare the use and frequency of medical resources needed in the treatment of exacerbation episodes in patients with COPD at outpatient and inpatient care levels from a public Mexican institutional perspective, in this case insured patients from the "Instituto Mexicano del Seguro Social" (IMSS). **METHODS:** From January to December 2013, a retrospective study was performed to estimate the direct medical costs of COPD exacerbations. The level of acuteness and treatment patterns used for the study where the same as those defined by the institution (IMSS guideline). Patient records were retrieved from the open institutional electronic databases for a 11822 COPD patients cohort. Exacerbation episodes were classified according to the guideline. Inpatient and outpatient care was the criteria for assessing the use and frequency of medical resources, including relevant outcomes as hospitalization, physician visits, intensive care unit, surgery, medication use, clinical studies among others. Unitary costs were obtained from public tabulators (2014 IMSS). Mean frequency values were weighted with its corresponding costs. **RESULTS:** In 2013, 16122 episodes of exacerbation were reported by the studied subjects. Patients over 45 years represented 97% of all cases; being those over 65 years the most frequent (81%). A mean average of 5.6 days of inpatient care was founded at the study horizon. Yearly weighted cost of treatment for outpatient and inpatient care was US$8,630 and US$51,259 respectively. A unitary item costs analysis from the inpatient versus the outpatient treatment groups founded a significant increase in medication use (+83%), specialty visits (+100%), surgery (+100%) among other items. **CONCLUSIONS:** In the treatment of exacerbation episodes in patients with COPD, the aggregated cost per year of inpatient versus outpatient care was estimated to be 83% higher. Reducing the risk of exacerbation episodes with the right treatment choice would be relevant for Mexican institutions.

PRS19

HEALTH-CARE COSTS OF ASTHMA ARE LOWER USING MP29-02* VS. SEQUENTIAL SPRAYS FOR ALLERGIC RHINITIS

Harrow B[1], Sedaghat AR[2], Munzel U[3], Tarr A[4], Gever L[1], Hofmeister J[1], Dufour R[4]

[1]*Meda Pharmaceuticals, Somerset, NJ, USA,* [2]*Massachusetts Eye and Ear Infirmary and Harvard Medical School, Boston, MA, USA,* [3]*MEDA Pharma GmbH & Co. KG, Bad Homburg, Germany,* [4]*Comprehensive Health Insights, Inc, Louisville, KY, USA*

OBJECTIVES: Allergic rhinitis (AR) affects 20% of the population, and 40% of these patients report a diagnosis of asthma. Previous work has shown that treatment of AR improves asthma control. The objective was to examine healthcare costs related to AR and asthma for patients either treated with MP29-02*, a novel intranasal formulation of azelastine hydrochloride and fluticasone propionate in an advanced delivery system, or combination therapy with single ingredient intranasal antihistamine (INA) and intranasal corticosteroid (INS) sprays. **METHODS:** A retrospective analysis of medical and pharmacy claims of a commercially-insured U.S. population was performed to evaluate differences in costs between two treatment groups (MP29-02* and INA/INS combination therapy). Medical and pharmacy claims occurring between 9/1/2011-3/31/2014 were used. Inclusion criteria included a diagnosis of rhinitis (defined by ICD-9 472.0, 477.xx), at least 1 claim for a prescription intranasal spray (designated as the index date) during the identification period (9/1/2012—12/31/2013), 12 months pre-index and 6-months post-index continuous enrollment, and no pre-index claims for an intranasal spray. Patients diagnosed with asthma (493.xx) during the observation period were flagged. Inverse propensity score weighting adjustment was used to control for demographic, comorbidity, geographical and seasonal attributes. Adjusted mean AR-related and asthma-related costs for 6-months post-index were compared. **RESULTS:** Total medical and pharmacy costs for the MP29-02* cohort (n=810) are $2,782, statistically significant lower than for INA/INS cohort (n=726) with $3,493 (P=.0074). For the sub-cohort with asthma, the MP29-02* cohort (n=109) had lower asthma-related pharmacy costs ($247 vs. $796, P=.0193) and lower total asthma-related costs ($565 vs. $1068, P=.0311) compared to the INA/INS asthmatic sub-cohort (n=113). **CONCLUSIONS:** For individuals with asthma and rhinitis, MP29-02* is associated with lower asthma-related costs compared to sequential INA/INS therapy in particular for pharmacy costs highlighting the economic impacts of formulation and delivery system in intranasal AR therapy. *Dymista